

A colorful SAR interferogram showing concentric circular patterns in shades of blue, green, yellow, and red, representing ground deformation or topography.

# WInSAR

Western North America Interferometric  
Synthetic Aperture Radar Consortium

## WInSAR Business Meeting AGU Fall 2013

Executive Committee: Matt Pritchard, David Schmidt, Shimon Wdowinski  
Franz Meyer, Paul Vincent, Eric Fielding (ex-officio)  
UNAVCO Staff: Chris Crosby, Scott Baker, Susanna Gross  
UNAVCO Board Liaison: Bill Holt



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## Meeting Agenda

1. Summary of WInSAR activities for 2013 (David Schmidt)
2. WInSAR funding, data availability, new tools (Chris Crosby and Scott Baker)
3. Supersites update (Falk Amelung)
4. NASA update: agreements with foreign agencies (Craig Dobson)
5. NASA L-band satellite update (Paul Rosen)
6. ALOS-2 Update (David Sandwell)
7. DLR update (Jörn Hoffman)
8. ASF update (Nettie Labelle-Hammer)
9. Update on ISCE and GMTSAT (Paul Rosen and David Sandwell)
10. Discussion of new opportunities for WInSAR.
11. Announcements and questions from the membership.



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## **WInSAR activities for 2013... and lingering issues for 2014**

- Presentations at workshops promoting WInSAR activities
  - Thanks to Falk, Shimon, Scott, & Matt
- Migration of ROI-PAC.org WIKI to UNAVCO
- Continued tasking of TSX data
- Organize membership for new TSX AO call
- Negotiate agreement with the National Geospatial-Intelligence Agency (NGA)
- Future funding for WInSAR Activities; Future proposals
- Appropriate \$45k in remaining EarthScope funds

# WInSAR operations

- **WInSAR Funding**
- Limited WInSAR support under GAGE Facility
  - Approx. 1 FTE for management, archive operations and maintenance, tasking, data ordering, data ingest, website and community support, Supersites
  - No support for data purchase or significant software development.
- NSF/NASA/USGS funding - Comprehensive EarthScope SAR Archive
  - \$45,000 remains; *currently in 2nd no-cost extension* ending August 2014.
- One year remaining on SSARA NASA ROSES ACCESS award.
  
- **Activities**
- New WInSAR portal for TSX proposal and data management, tracking of TSX tasking for WInSAR and Supersites.
- Federated SAR data search and download - SSARA (*NASA ROSES ACCESS* funded)
- ISCE licenses and software distribution:
  - facilitating distribution, providing help desk support for ISCE users.

# WInSAR operations

- **Data & Access**

- Scene Counts and Data Volume

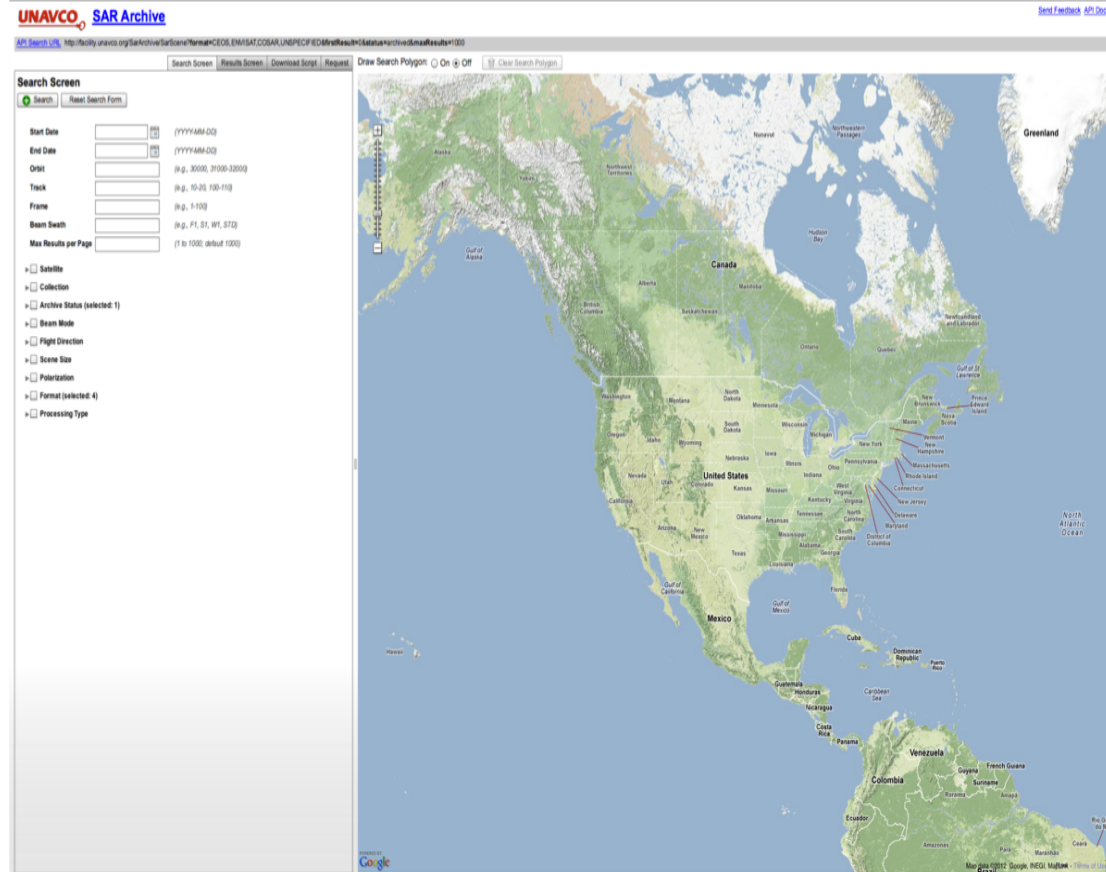
Mission	scene count	data size, GB
ERS-1	10460	3717.4
ERS-2	31273	7830.9
Envisat	23623	4396.3
RSAT-1	64555	23484.

- The UNAVCO SAR archive has 129911 scenes, 38.830 TB

- **Contact:**

- [winsar@unavco.org](mailto:winsar@unavco.org)

- [supersites@unavco.org](mailto:supersites@unavco.org)



<http://facility.unavco.org/SarArchive/flexweb/SearchSarScene.html>

# WInSAR Portal and SSARA

WInSAR Portal: TSX tasking and proposal management

<https://winsar.unavco.org/portal>

Seamless SAR Archive (SSARA): Poster IN-1519

<http://www.unavco.org/ws/brokered/ssara/sar/search>

<https://github.com/bakerunavco/SSARA>



# Permanent Supersites



## Hawaii:

- 2000 images
- new image every 3-5 days

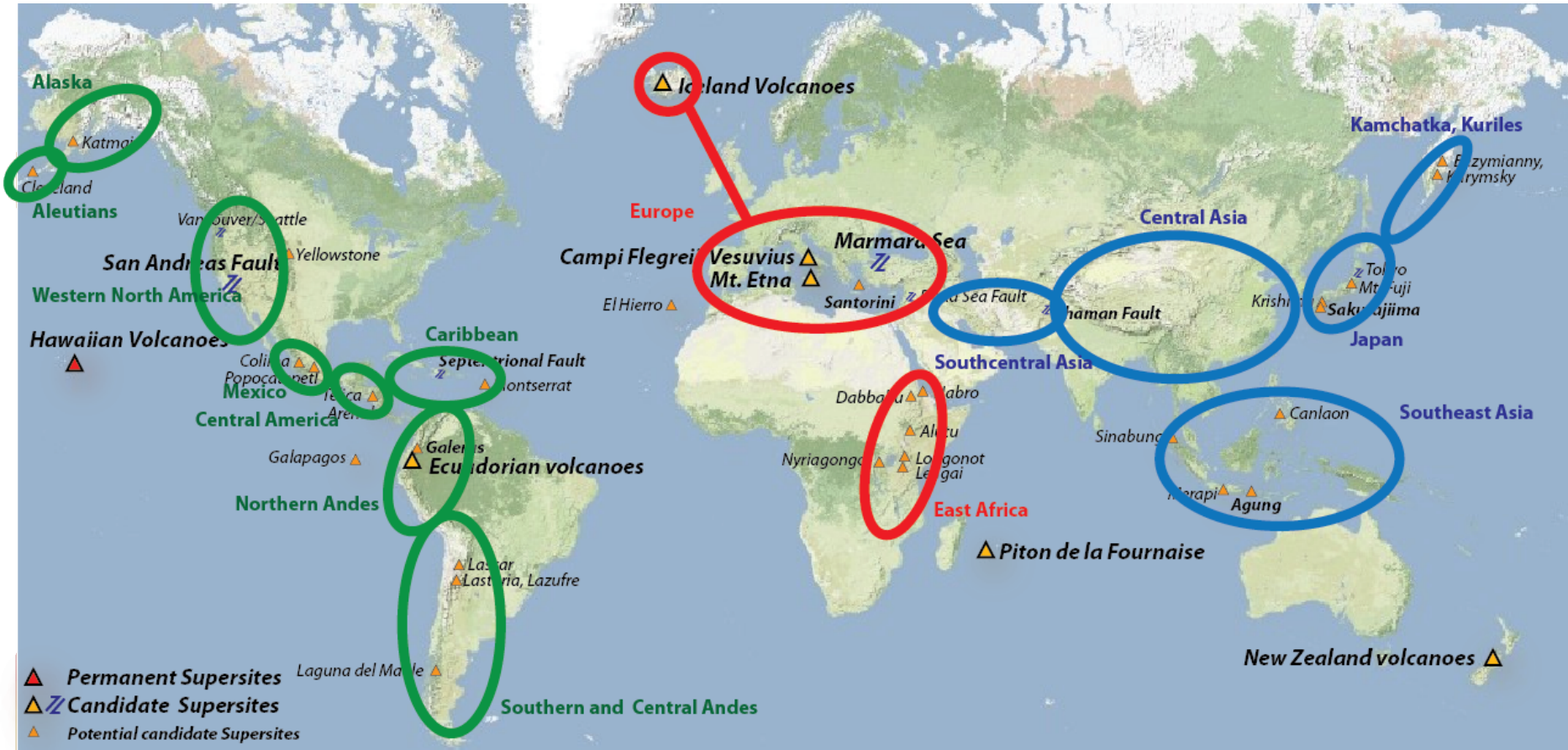
## Iceland:

- 300 TerraSAR-X/yr
- 300 CSK/yr

## Next Supersites:

- Dead Sea
- Yellowstone
- Tanzanian volcanoes

# Future: Network of Supersites



## Hawaii:

- 2000 images
- new image every 3-5 days

## Iceland:

- 300 TerraSAR-X/yr
- 300 CSK/yr

## Next Supersites:

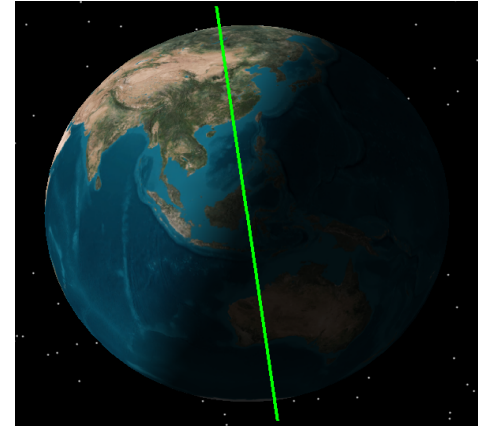
- Dead Sea
- Yellowstone
- Tanzanian volcanoes



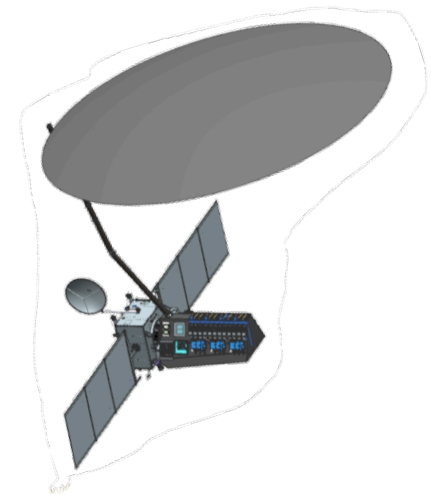
# NASA-ISRO SAR Mission Concept

## Status

- Major international partner: Indian Space Research Organization (ISRO)
- Baseline launch date: September 2020
- L- and S-band Polarimetric Synthetic Aperture Radar (SAR)
- Sweep SAR technique (> 240 km swath) for global data collection
- Orbit: 747 km altitude circular, 98 degrees inclination, sun-synchronous, dawn-dusk (6 AM – 6 PM), 12-day repeat
- Repeat orbit within +/- 250m
- Spacecraft: ISRO I3K
- Launch vehicle: ISRO GSLV (4-m fairing baseline)
- 3 years science operations (5 years consumables)
- Science data from both L- and S-band SAR will be available to each partner without any restrictions
- Conducted successful Mission Concept Review in October 2013
- Conducted successful JPL Institutional Review (CMC) December 2013
- Tentative Date for NASA Key Decision Point-A (KDP-A) Review: late February 2014



*Orbit*



*NI-SAR Observatory*

# InSAR Scientific Computing Environment Code Status and Availability

- Baselined for NASA SAR mission algorithm development and cal/val processing platform – implies on-going project support for maintenance and augmentation
- Significant augmentations in 2013
  - Code operates robustly - Regression testing on many features implemented
  - Most ROI\_PAC favorites incorporated – unwrapping options, model removal, geocoding of multiple layers, control of various processing options, tools, etc.
  - Commonly used with GIANt for back-end time series analysis
  - “Apps” methodology for running on Amazon cloud instances
  - Web-based cloud-enabled tutorial modules to learn basics of ISCE
- Coming in 2014
  - PolInSAR time-series control script
  - Module-level configurability
  - UAVSAR integration
  - Seamless integration with GIANt, notably interferogram stack generation
  - Native Zero-Doppler geometric support
- Available through research license
  - From UNAVCO for WInSAR members
  - From JPL for non-WInSAR members



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## Appropriations for 2014

### Issue:

- \$45k remaining in NSF grant
- Must be spent by August 31, 2014
- Cannot be spent on items covered within the GAGE Facility

### Possible Expenditures:

- Purchase new SAR data for the membership
- Pay to task scenes that have a low acquisition rate
- Purchase supplementary data (i.e. MERIS data)
- Fund additional InSAR short course (beginner and advanced)
- Expedite migration of ROIPAC.org (temporary employee)
- Other ideas?